



2007 AIN PRODUCT SUPPORT SURVEY

PART ONE | AIRCRAFT

For the fifth year in a row, Gulfstream scored the highest overall rating among business jets. Pilatus leads among turboprops and Bell dominates the helicopter category.

by Ian J. Twombly

Players in the business aviation arena regularly tell their customers that they are improving product support and service by investing in assets and people. Now it's the customers' turn to have their say, and the results speak for themselves as AIN publishes its annual Product Support Survey Report. In this issue, we present the results for the aircraft OEMs; in the September and October issues we will publish results for the avionics and engine manufacturers, respectively.

Gulfstream continued its winning ways in this year's survey and captured the top spot for overall support of both newer and older business jets—the fifth consecutive year the Savannah-based manufacturer has done so.

This year's survey contains many of the same manufacturers that were rated last year. Some have been added and a few dropped because they didn't receive the minimum number of responses necessary for inclusion.

One important change this year

was the rating scale.

Whereas last year readers rated manufacturers on a scale from one to nine, this year that scale changed from one to 10 to align with AIN's yearly FBO survey (see *How the Survey was Administered, facing page*). A consequence of the change is that almost every manufacturer's score increased year over year. As such, when an increase or decrease in score is referenced, that number is relative. For example, most of the increases in score were approximately half a point in each category. When a manufacturer improved well beyond that number, it is noted. Thus, although it is not easy to ascertain exactly which manufacturers improved in which categories, the relative increase does tell the story of which OEMs made the most gains or slips.

For the second year in a row, Boeing took the second spot among OEM support for manufacturers of newer (10 or fewer years old) business jets, though the gap between it and first-place Gulfstream widened slightly from last

year. The BBJ maker also took top honors for cost of parts, technical manuals and overall aircraft reliability.

Cessna dropped to fourth place this year for newer aircraft support but, thanks to General Dynamics Aviation Services' (GDAS) minor slip, moved up a place to second in the category for support of older air-

craft. GDAS has responsibility for the GII, GIII, Astra SPX, G100 and, for most of the year under review, Westwinds. Although GII and GIII operators remained relatively pleased with GDAS' service, the old IAI operators had mixed opinions about how well the Gulfstream Aerospace sibling took

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Overall Average Ratings of New and Older Aircraft Combined

(in order of 2007 ratings)

The chart below illustrates the overall average rating of each manufacturer when the newer and older aircraft scores are combined. This allows OEMs and readers a glimpse of a manufacturer's overall support ratings for all its products, perhaps even those it never manufactured (such as older Learjets in Bombardier's case). The chart is, however, broken down between jets and turboprops, as the level of service and support can vary widely between the two platforms.

Because the scale was changed from one to nine last year to one to 10 this year, every manufacturer's rating increased. Thus, the far right column indicates what percent the rating increased for each OEM. As a basis of comparison, the average increase among the jet OEMs was 9.26 percent, the increase for turboprops was an average of 5.2 percent and the overall average increase was 7.81 percent.

Jets	2007	2006	Change from 2006
Gulfstream	8.16	7.53	8.37%
Boeing	7.91	7.41	6.75%
GDAS	7.64	7.04	8.52%
Cessna	7.59	7.06	7.51%
Dassault	7.40	6.58	12.46%
Embraer	7.20	6.47	11.28%
Hawker Beechcraft	7.10	6.42	10.59%
Bombardier	6.59	6.18	6.63%
Sabreliner	6.19	5.58	10.93%
Turboprops			
Pilatus	7.45	7.30	2.05%
Socata	7.38	N/A	N/A
Hawker Beechcraft	7.13	6.72	6.10%
Twin Commander	6.40	6.27	2.07%
Cessna	5.88	5.52	6.52%
Piper	5.78	5.29	9.26%

Source: AIN 2007 Product Support Survey



2007 RATINGS

Products are listed in the order of their 2007 overall averages.

	2007 OVERALL AVERAGE*	2006 OVERALL AVERAGE*	PERCENTAGE CHANGE*	AUTH. SERVICE CENTER	FACTORY SERVICE CENTER	PARTS AVAILABILITY	COST OF PARTS	AOG RESPONSE	WARRANTY FULFILLMENT	TECHNICAL MANUALS	TECHNICAL REPS	OVERALL AIRCRAFT RELIABILITY
Newer Business Jets [↑]												
GULFSTREAM (all models)	8.16	7.50	8.79%	7.73	7.94	8.24	6.25	8.89	8.50	8.06	8.87	8.68
BOEING (BBJ)	7.91	7.41	6.70%	7.70	7.75	7.79	6.76	7.90	7.68	8.37	8.11	8.90
HAWKER BEECHCRAFT (Beechjet, Premier I, Hawker 400XP)	7.80	6.95	12.23%	7.47	7.88	7.98	6.35	8.20	8.31	7.98	7.91	8.03
CESSNA (Citation)	7.74	7.12	8.76%	7.61	7.67	8.04	6.32	8.01	7.91	7.56	8.05	8.47
DASSAULT (Falcon)	7.64	6.96	9.71%	7.64	6.91	7.73	6.05	7.90	8.03	7.53	8.13	8.68
HAWKER BEECHCRAFT (Hawker 800/850/1000)	7.28	6.77	7.53%	7.49	7.02	6.94	5.72	7.10	7.81	7.18	7.66	8.43
EMBRAER (Legacy 600)	7.20	6.47	11.21%	6.39	6.00	6.69	6.32	7.32	7.58	7.58	8.32	8.47
BOMBARDIER (Challenger)	7.11	6.60	7.70%	7.47	6.52	6.07	5.71	6.43	7.64	7.32	8.25	8.47
BOMBARDIER (Global Express/XRS/Global 5000)	6.62	6.19	6.94%	7.24	6.20	5.58	4.86	5.77	7.28	7.21	8.10	7.44
BOMBARDIER (Learjet)	6.23	6.02	3.49%	6.97	6.13	5.18	4.82	5.78	6.85	6.24	7.56	6.68
Older Business Jets ^{↑↑}												
GULFSTREAM (GIV-SP through G550)	8.19	7.70	6.43%	7.79	7.63	8.39	6.40	8.12	8.40	8.33	8.84	9.07
CESSNA (Citation)	7.36	6.84	7.54%	7.29	7.19	7.66	6.02	7.48	7.44	7.50	7.43	8.17
GENERAL DYNAMICS (Westwind, GII, GIII)	7.33	7.07	3.68%	7.09	6.91	7.53	5.51	7.78	7.11	7.48	7.85	8.52
DASSAULT (Falcon)	7.11	6.60	7.70%	7.24	6.31	7.17	5.17	7.26	6.93	7.45	7.52	8.71
HAWKER BEECHCRAFT (Diamond, Beechjet 400/400A)	6.93	6.60	5.03%	6.69	7.06	6.87	5.18	6.88	7.44	7.21	7.62	7.77
BOMBARDIER (Challenger)	6.73	6.18	8.90%	7.48	6.42	5.90	4.82	6.04	6.84	7.28	8.19	7.76
SABRELINER	6.19	5.58	11.02%	5.89	6.24	5.79	5.25	6.23	5.40	6.32	6.74	7.52
HAWKER BEECHCRAFT (Hawker)	6.16	5.99	2.80%	6.75	6.12	5.72	4.92	6.03	5.77	5.93	6.48	7.34
BOMBARDIER (Learjet)	6.11	6.29	2.88%	6.24	5.69	6.04	5.07	5.89	5.72	6.20	6.08	7.76
Newer Turboprops [↑]												
PILATUS (PC-12)	7.47	7.19	3.91%	7.28	7.83	6.96	6.21	7.50	7.16	7.62	7.61	8.48
SOCATA	7.44	N/A	N/A	7.48	8.18	7.54	4.07	7.73	8.22	7.44	7.96	8.57
HAWKER BEECHCRAFT (King Air)	7.28	6.97	4.49%	7.26	7.02	7.34	5.93	7.15	7.66	7.50	7.25	8.29
Older Turboprops ^{↑↑}												
HAWKER BEECHCRAFT (King Air)	7.07	6.64	6.51%	6.93	6.70	7.36	5.58	7.08	6.98	7.36	7.21	8.19
TWIN COMMANDER	6.40	6.27	2.00%	6.94	5.25	6.44	6.00	6.31	5.46	6.60	7.27	6.93
CESSNA (Conquest)	5.88	5.52	6.50%	6.19	4.55	5.88	5.00	5.94	5.00	6.19	5.62	7.65
PIPER (Cheyenne)	5.78	5.29	9.26%	6.10	5.00	5.35	5.49	5.24	5.06	6.10	5.35	7.57
Rotorcraft												
BELL	7.31	6.92	5.57%	7.10	6.89	6.86	5.38	7.49	7.41	8.02	8.10	8.36
MDHI	6.69	N/A	N/A	7.43	6.35	5.58	5.46	6.39	6.21	7.46	7.00	8.12
SIKORSKY	6.59	6.80	-3.08%	6.81	6.41	6.11	5.22	6.81	6.81	6.59	7.00	7.49
EUROCOPTER	6.23	5.90	5.57%	6.66	6.13	5.39	4.44	6.05	6.61	6.26	6.95	7.68
AGUSTA	5.84	6.04	-3.26%	5.74	5.81	5.79	5.00	6.04	5.61	5.83	6.04	6.71
AEROSPATIALE	4.96	5.67	-12.44%	5.67	4.63	4.10	4.32	4.35	5.50	4.95	5.26	5.95

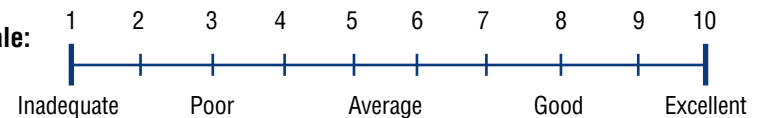
*Ratings in previous surveys were based on a one-to-nine scale. This year's survey scale is based on one-to-10.

↑ Less than 10 years old

↑↑ More than 10 years old

Bold Type indicates highest rating in each category.

Rating Scale:



How the Survey Was Administered

This marks the second year the **AIN** Product Support Survey was administered electronically. Again, it has been a success, primarily because the easier-to-complete electronic format produces more results—the goal of every survey.

In all, more than 14,000 subscribers were contacted and asked to complete a survey, and approximately 1,450 returned, via mail, fax or the Web site, a completed survey. Roughly an additional 150 rated something—an aircraft, an engine or avionics—without finishing the survey. This equates to a better than 10-percent response rate, an increase from last year's high. In the statistician's world, a 10-percent response to a survey is regarded as remarkable.

The survey, devised and designed by **AIN's** editors, was administered again this year by Newtown, Conn.-based Forecast International, a veteran leader in aerospace market data. While the bulk of the survey was similar to last year's, there were a few major changes this year. The rating scale was expanded from one to nine to one to 10. The primary purpose of the change was to align the scale with **AIN's** FBO survey.

To aid in understanding the percentage change, it's important to note that ratings for support of newer business jets increased an average of 8.31 percent, while older business jets increased 5.58 percent

on average. Newer turboprops increased an average of 4.20 percent, and older turboprops increased an average of 6.07 percent. Finally, rotorcraft ratings actually decreased an average of 1.53 percent.

Survey Category Breakdown

In an effort to keep all the manufacturers on an even keel, jets and turboprops were split between newer and older aircraft again this year. For the purpose of the survey, the distinction is 10 years. This was done to reflect the very real differences in the support environments for newer aircraft that are either still under warranty or still enjoying the bloom of youth and older, out-of-production and possibly orphaned aircraft that have needs typical of any senior. The split did not apply to rotorcraft, mainly because the number of responses for each category would have been insufficient.

A few manufacturers were also divided into a number of different subcategories. This distinction acknowledges that although one OEM has responsibility for service on a number of different brands, that service can vary considerably. Gulfstream is a good example. Until March, the manufacturer's sister organization, General Dynamics Aviation Services (GDAS), had responsibility for all Westwinds

and Astras, not just the newer G100 and G150. Although GDAS unloaded the Westwinds in March, for the purpose of the survey they remain with the Astras and older Gulfstreams because the change happened so far in to the survey study period.

Readers rated each aircraft in nine categories. They were:

- **Authorized Service Centers**—cost estimates vs. actual, on-time performance, scheduling ease, service experience.
- **Factory Service Centers**—same as above.
- **Parts Availability**—in stock vs. back order, shipping time.
- **Cost of Parts**—value for price paid.
- **AOG Response**—speed, accuracy, cost.
- **Warranty Fulfillment**—ease of paperwork, extent of coverage.
- **Technical Manuals**—ease of use, formats available, timeliness of updating.
- **Technical Reps**—response time, knowledge, effectiveness.
- **Overall Product Reliability**—how the product's overall reliability and quality stack up against the competition's.

So that we can still present a full sample of the comments received, the survey report runs over three issues. Next month will cover avionics, and the October issue will examine engines. —*I.J.T.*

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Beechcraft Hawker 800XP



Bombardier Learjet 60XR



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care of their jets. Though operators rated Cessna's support for older Citations pretty favorably in almost every category, the edge was in both authorized and factory service centers, and in what operators saw as Cessna's less expensive parts. GDAS retained the edge in aircraft reliability, AOG response and technical reps.

Hawker Beechcraft (known as Raytheon Aircraft for almost the entire period under review) dislodged Cessna from the third-place slot in the newer business jet category with its support for the Beechjet, Premier and Hawker 400XP. Operators still rate the factory's service on older aircraft lower; Hawker Beechcraft came in fifth in that category for the Beechjet, and a lowly eighth for the Hawker line. A category-high-

est 12.23-percent increase over last year's numbers in the newer aircraft category was due mainly to a big boost from the factory service center, availability of parts and aircraft reliability categories.

But where Hawker Beechcraft really shone this year for operators was with its AOG response. The company's second place slot behind only Gulfstream, which is practically legendary for its AOG response, is a vast improvement over last year's fourth place in the category. Though most of Hawker Beechcraft's ratings in the older business jet category were stagnant, ratings did improve significantly in the factory service center and warranty fulfillment categories.

The numbers indicate that HBC's support for the Hawker is

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Dassault Falcon 900

What Have You Done for Me Lately?

Every year **AIN** asks the OEMs to provide a list of the three most important service improvements or developments the company made over the past year. It's an opportunity for readers to get a better understanding of what it is the OEMs do to keep customers happy. Agusta, Aerospaciale and MD Helicopters did not respond.

BELL

- Focused on fleet management programs such as Fly Smart designed to integrate customer maintenance and operations management.
- Made auditing of its customer service facility network more rigorous.
- Expanded retrofit, modification and upgrade programs for the 206 and 412SP.

BOEING

- Added 100 parts to the spares pool, bringing the total to nearly 800.
- Added a specialist to manage unique parts issues.

BOMBARDIER

- Developed integrated customer response centers in Montreal and Wichita for 24-hour AOG support.
- Invested \$25 million in spares inventory and launched parts express, an aircraft dedicated to AOG support.
- Appointed James Hoblyn senior v-p for customer experience.

CESSNA

- Appointed Mark Paolucci senior v-p of customer service.
- Announced a new service center at Williams Gateway Airport, Phoenix.
- Added a number of new field service engineers.

DASSAULT FALCON

- Expanded U.S. parts warehouse by 19,000 sq ft and added \$1.5 million in spares to its Singapore facility.
- Introduced two-year warranty on 120,000 spares purchased through Dassault.
- Designated three new authorized service centers and seven field service representatives.

EMBRAER

- Invested more than \$20 million in parts for the Legacy 600.
- Signed an agreement with CAE to provide training for the Phenom 100 and 300.
- Launched Embraer executive care, designed to improve aircraft utilization.

EUROCOPTER

- Improved processes for service tracking, quotes and delivery.
- Launched a new customer assistance center in Europe with 24/7 support, and added four technicians to its U.S. support center.
- Created global supply chain for spares support.

GULFSTREAM

- Expanded the TTT program and the field service representative network.
- Acquired Weco.
- Increased spares inventory around the world.

HAWKER BEECHCRAFT

- Hired seven new field representatives and moved a number of others from the factory to the field.
- Initiated a new customer survey program to obtain better customer feedback.
- Launched performance promise to empower Hawker Beechcraft employees to offer better customer service.

PILATUS

- Began hosting regional Pilatus operator's conferences.
- Added five new authorized service centers, bringing the total to 42.

PIPER

- Coordinated with Pratt & Whitney Canada to cover both P&W's Service Bulletin (SB) 3426 and Piper's SB 1154A to be serviced at the same time.
- Added three engineers, dedicated to address service issues.
- Started customer quarterly contact, a program whereby Piper reaches out quarterly to see if owners need its service.

SABRELINER

- Implemented new 15-year aircraft support plan, including a new 2,000-hour life extension program.
- Reduced prices on hundreds of parts and expanded manufacturing and repair capability.
- Added performance upgrade options.

SOCATA (EADS)

- Launched the field rep service, with more assets expected in the coming years.
- Released component maintenance manuals in coordination with owner's group to support local maintenance initiatives.
- Published the MSRP of all spares on Web site to provide easy access to pricing.

TWIN COMMANDER AIRCRAFT

- Reduced the price of parts.
- Expanded the authorized service center network for a total of 15 in the U.S. and six internationally.
- Expanded communication to owners with an electronic monthly newsletter.



Bell 407



MD Helicopters MD 530



Pilatus PC-12



Sabreliner



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inferior to its care for the Premier and Beechjet in both newer and older models.

The company retained sixth place for its Hawker support in the newer business jet category and saw solid improvement in the authorized service center, parts availability and warranty fulfillment categories.

In the older business jet category, Hawker operators saw fit to decrease the company's rating in technical manuals, technical reps and overall aircraft reliability despite the expansion of the rating scale. The company was also eighth last year in the older jet category, though this year it was surpassed by out-of-production Sabreliner.

Dassault Falcon fell behind Hawker Beechcraft for fifth place in the newer business jet category and held strong at fourth in the older business jet category. Operators rated Dassault stronger this year in parts availability and cost of parts in the newer aircraft category, while the company's retention of fourth place in the older

jet category can be attributed to a substantial increase in aircraft reliability. The comments reflected dissatisfaction among operators of older Falcons for the factory service center, and that is confirmed in a decrease in the category for this year's survey.

Embraer continued its improving trend this year, moving up one place to seventh, overtaking Bombardier in the process. Operators rated authorized service centers, parts availability and warranty fulfillment much higher than last year. They also saw a drastic improvement with Embraer's AOG response. The manufacturer jumped two spots in the category this year to sixth place.

In last place again this year for newer business jets is **Bombardier**. The Canadian manufacturer holds the last three spots with its Challenger, Global Express and Learjet lines. For older business jets, the company had mixed ratings—sixth for the Challengers and last for the Learjets. The biggest jump for the newer

Challengers was technical manuals and overall aircraft reliability. For the Globals, operators saw fit to rate the company virtually the same (disregarding the scale expansion) in all categories except authorized service centers, which saw a modest increase. Operators of newer Learjets are still reporting service problems in a number of categories. Learjet saw the smallest overall increase from last year and operators lowered the rating in two categories—factory service center and technical manuals. The only category that saw any significant improvement was warranty fulfillment.

Bombardier continues to struggle to support the older Learjets and Challengers. Although the Challenger did gain one place to sixth this year among older business jets, the increase was due mainly to the fall of the Learjets, which had the distinction of being the only model to have an overall decrease from last year, despite the expansion of the ratings scale. Challenger operators gave Bombardier better marks for warranty fulfillment and authorized service centers. Learjet operators weren't as happy, however. Compared with last year, operators rated Bombardier lower in seven of the nine categories this year.

A surprise for the older business jet category, **Sabreliner** increased more than 11 percent and jumped from ninth last year to seventh this year. That's the most of any fixed-wing manufacturer. Operators gave improved marks for the factory and authorized centers. Cost of parts was also better this year.

Pilatus Takes the Turboprops

For the first time ever, Socata is included in the survey, debuting in second place. Operators rated the TBM manufacturer highest in seven of the nine categories. Cost of parts was a low point, however. The OEM's score in the category was the lowest single score in the entire survey.

Pilatus retained the top spot

for newer turboprops this year by a slim margin. On a high note, Pilatus operators gave the company a large increase for the factory service center category. Parts availability hurt the company's overall rating, which decreased more than a third of a point from last year's number.

Hawker Beechcraft generally earned good marks from King Air operators for support of the aircraft, but the company remained behind Pilatus and newcomer Socata in the newer turboprop category. Though the OEM gained on Pilatus overall, it scored last in all but two categories. Cost of parts obviously remains a concern, as the score decreased from last year's number.

Twin Commander Aircraft remained in second place among older turboprops. Although operators were happy with the manufacturer's authorized service centers and cost of parts, there was a reduction in three of the nine categories.

Bringing up the rear again this year is **Cessna** with the Conquest and **Piper** with the Cheyenne. Piper gained ground this year and operators rated the manufacturer higher in every category (mainly thanks to the scale expansion). Conquest operators, on the other hand, felt Cessna did a worse job this year with the factory service center and warranty fulfillment. Mitsubishi operators did not provide enough responses this year for the company to be included in the survey—a surprise since they

rated the Japanese company tops in turboprops last year.

Rotorcraft Ratings Down

With the exceptions of Bell and Eurocopter, rotorcraft manufacturers should take note: operators are not happy. Despite a scale that tops out higher this year, three of the five manufacturers received lower scores from operators this year than they did last year.

Bell retained the top spot for the second year in a row with solid overall marks. The manufacturer was tops in seven of the nine categories.

Survey newcomer **MD Helicopters** grabbed the second spot from Sikorsky, mainly due to top ratings in the categories of authorized service centers and cost of parts. **Sikorsky** was the first of the rotorcraft manufacturers to see decreased overall marks. In all, operators rated the manufacturer worse this year in six of the nine categories. **Eurocopter** retained fourth spot this year, thanks in part to a sizeable improvement in the authorized service center category.

Agusta and **Aerospatiale** placed fifth and sixth, respectively. Among the two, operators awarded lower ratings for 14 categories (six for Agusta and eight for Aerospatiale). MBB operators did not provide enough responses for the products of the company (now part of Eurocopter) to be included in this year's survey. □

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In Their Own Words

Again this year, pilots and corporate aircraft operators who read *AIN* responded enthusiastically when we asked them to comment on the quality of service they receive from manufacturers. Partially as a result of our switch to a digital format last year, thousands of comments come to us from the survey. They range from useful and specific to short and unprintable.

What follows is a thorough and accurate sample of those comments, separated by category. Care was taken to provide a sample that corresponds with the ratings. For example, while Gulfstream did well in overall reliability and AOG response, many operators chided the OEM for the cost of parts, and the comments that shaped those verdicts are included here.

While the comments presented here make interesting and informative reading for operators, they serve as a report card for the OEMs, which take particular notice. Although a manufacturer can gain insight from the survey numbers, it's the comments that can provide specifics about the support of a particular service center or factory representative that just can't be gleaned from the ratings table. Only when respondents granted *AIN* permission are their name and company identified.

AUTHORIZED SERVICE CENTERS

The flight department manager of an East Coast company that operates a **Challenger 601-3A** echoed the almost universal praise for Midcoast. "Midcoast...has been a steady, dependable, consistent partner for our heavy maintenance needs," he said.

Bruce Harting, a maintenance supervisor for TAG Aviation USA based in southeast Florida, said of Midcoast's service on the company's **Challenger 604**, "Midcoast Aviation does an excellent job on Challengers. From heavy maintenance to completions [it is] truly a full-service Bombardier service center."

According to Glen Keen, chief pilot for Cleveland-based Acme Operating, Bombardier might have scored lower in the authorized service center category were it not for Midcoast. "The greatest benefit to the Bombardier company was the approval of Midcoast Aviation to be a factory-authorized service representative for the **Global Express**."

The chief of maintenance for an Ohio-based company agreed with Bombardier operators when it comes to Midcoast. "Midcoast is an excellent facility, and I would recommend it to anyone with a **Hawker**," he said.

Bombardier's Learjet operators were not nearly as satisfied with authorized service centers as their Challenger and Global cousins. The owner of a **Learjet 35** from central Illinois said of his service experience, "We recently [underwent] RVSM [approval of] our aircraft. The RVSM was fine but the damage to the other items in the aircraft created a nightmare, and the problems are still being resolved."

Michael Nicholas, maintenance lead on a **Learjet 60** for Connecticut-based PrivatAir, had similar concerns. He said, "We have had many issues

with authorized service centers. Half the time the airplane returns with more squawks than when it left. Florida Jet seems to be the worst." Duran Spenser, pilot liaison for Spenser Air Group based in the Fort Lauderdale area, received better service than Nicholas on his company's **Learjet 60**. "Florida Jet service, the best thing for a Learjet," he said.

A Northeast-based **Learjet 60** operator commented that Learjet operators receive poor service from Bombardier's authorized service centers. "Service reps at BDL treated us as second-class citizens and with attitude," he said.

Comments were mixed on Cessna's authorized service centers. An assistant flight department manager at a company operating a **Citation Bravo** based in the Midwest said, "Some are better than others. Their inventory of parts is typically not as good as the factory service centers. [You] pay more for freight on a large inspection."

The operator of a **Citation V Ultra** had a better experience with authorized service centers this year. Steven Holbrook, a captain on the jet based out of the Detroit area, said, "The authorized service center we used this year did a pretty good job keeping us flying. Twice we needed to pop in for repairs, and [although presented with difficulties] they were able to get us out in a timely manner."

Many had good things to say about Premier Air Center at St. Louis Regional. Roman Bindr, the captain of an **Excel** based in southeast Tennessee, said, "Premier Air Center has always been good about coming in on or under budget and on time for our Phase V inspections. Their billing is usually correct."

Richard Wenzel, pilot of an **XLS** for Progress Energy in Raleigh, N.C., echoed the sentiment. He said, "Premier in St. Louis does

nice work. Family owned and operated, good technicians, good fit and finish work and knowledgeable about your aircraft."

Many operators had nothing but good things to say about Duncan Aviation. The operator of a Falcon 50 said, "Duncan Aviation at Lincoln was a very positive experience for us during both our 2006 acquisition and maintenance of our Falcon 50."

Gerald Kaemmer, a **Falcon 50** captain for John Fabick Tractor of Fenton, Mo., agreed. "Duncan Aviation outfitted our Falcon and did a superb job, with good follow-up warranty support," he said.

An AMT for a major corporation based in New York that operates a **Challenger 604** said, "Duncan Aviation at Battle Creek for the 604 provides good service, and attitudes on the floor are great. [They had] on-time performance after a significant change in work scope. Great."

Gulfstream operators generally made positive comments about the authorized service centers, though many were for foreign providers. The captain of a **G550** based near St. Louis spoke positively of Jet Aviation, as did many others. He said, "Jet Aviation Basel does an excellent job and is always ready to solve your problem, even if you arrive unexpectedly."

Some of the most positive comments about GDAS's authorized service centers came from Hawker owners. Mario Fernandez, the director of operations for a company based in Mexico that operates a **Hawker 800A**, said, "General Dynamics, Appleton, Wis. No better place to take your Hawker."

Many Hawker Beechcraft operators also had good things to say about Stevens Aviation. Bernard Grebe, the director of maintenance for Three Forks Aviation in southern Wyoming, said of the service on his

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company's **King Air C90B**, "Stevens Aviation (BJC) has served us well in the last two years. They've always taken our aircraft in on short notice, and always delivered on time."

Embraer might have earned a higher overall rating were it not for its last-place rating in the authorized service center category. One **Legacy 600** operator said the service centers "need more experience and information technology upgrades."

much better. Said one chief pilot for a company that operates a **Challenger 604**, "FLL is terrible. Never have parts, always claim they're too busy, not eager to help with recurring problems."

Comments about Cessna's factory service centers were generally positive. "The San Antonio service center does an excellent job from start to finish," said Matt Pepperling, the director of maintenance for Clear Channel Com-



Dassault Falcon 50 (foreground) and 900EX

FACTORY SERVICE CENTERS

Many comments bore out Bombardier's continued struggles with factory service. Ken Bowen, chief pilot for Ewa West based in San Jose, Calif., said he wasn't happy with the service Bombardier has provided on his **Global Express**. "In the six years I have been flying this aircraft, it has never come out of maintenance on schedule," he said.

The chief pilot of a company that bases a **Learjet 45** in the Northeast said, "They couldn't care less about their customers. Poor work ethic and terrible service." Thomas Halpin, chief pilot of a company that operates a **Learjet 60** from Georgia, gave an example. "TEB refused to service our AOG situation while at EWR. BDL was called in and was late/slow. GYH was satisfactory," he said. But, he noted, "ICT was excellent!"

Challenger operators haven't fared

communications in San Antonio, which operates a **Citation X**. "No surprises, either, when it comes to the invoice."

Mark Hanson, the assistant flight department manager for a company based in Ohio that operates a **Bravo**, said the Cessna factory service centers have a "great knowledge of the aircraft and great resources if an unusual problem is encountered."

"The Wichita Citation center has been outstanding. The last visit we were met on the ramp before the engines had spooled down, and the techs were literally ready to drop panels before the aircraft was towed into the hangar," said Phillip Eddy, chief pilot for a company that operates a **CJ3** in the Midwest.

But Cessna did not escape criticism. The captain of an **Excel** said, "The factory service centers are notorious for erroneous billings," a comment that was echoed by others. "They service items that were not asked for, without contact-

ing the operator first."

Dassault's sixth-place finish in the factory service category was largely reflected in the comments. The maintenance manager on a **Falcon 2000** said of the company's flagship provider, "The service center in Little Rock should be embarrassing to Dassault. They can put only six aircraft in the hangar at one time."

"Horrible experience with Wilmington," said Don Henderson, the director of aviation for a company that flies a **Falcon 2000** from the Northeast. "They are using an outdated version of Chapter 5 in inspection. When we talked to other folks at some OEMs with some problems, they pointed this out to us. It is common knowledge among a number of the vendors."

"Poor. Management is in need of some changes, still. The 7X has taken over a large portion of the resources needed to take care of all the other models," said the director of maintenance of a Western-based company operating a **Falcon 2000EX EASy**.

Operators of newer Gulfstreams commented on what many called the company's excellent factory support. W. Barber, chief of maintenance for **GIV-SP** operator Solar II of Buffalo, N.Y., said, "Gulfstream has built an excellent network of service centers. All are well equipped and staffed with well trained people."

But the praise wasn't universal. The director of maintenance for a **GIV** operator from the South said, "The initial estimates are always high and always negotiable. They almost always try to charge for multiple opening and closing of the same areas. Modification estimates are based on standard installation, not on specific aircraft."

"We have had the best luck at the GDAS service centers," said the captain of a **G200**. "Oddly enough since we have had the aircraft the worst service was experienced at the Savannah factory. It seemed that if it wasn't a [large-cabin Gulfstream] they weren't interested."

The manager of a **G100** based in the Southwest said, "GDAS DAL is top notch—from Cheryl Bridges in customer service to everyone on the floor. GDAS LAS is reinventing itself and really beginning to instill confidence."

Hawker Beechcraft operators gave mixed reviews to factory service centers, though a number were happy with the service in Tampa. "Hawker Beechcraft in Tampa, Fla., is the best anywhere," said one **Hawker 400** operator. A **Hawker 800** operator said, "Nobody does it better than Hawker Beechcraft in Tampa."

But King Air owners and operators were almost universal in their negative comments toward factory support. Jeff Munits, chief pilot for AMC Air in Las Vegas, said the support on his company's **King Air 350** has been "not good! [They are] arrogant, high priced and not reliable as far as warranty consideration. They will bill us for everything and hope we don't notice that there are many items on the bill that require warranty consideration. I usually experience great frustration as far as communication goes with the factory service centers also. They don't follow through and keep the customer informed well."

A **Socata TBM** operator said, "The factory service center in Perry, Fla., is fantastic. The people know the airplane inside out, are friendly and willing to explain and show the pilot what, when and why if asked. I will bypass the authorized service centers and fly to the only factory service center because of their level of service and support."

"It's difficult to get consistently accurate information from the manufacturer and Eurocopter headquarters when questions arise," said Terry Terrel, chief pilot for Life Flight, an **Aerospatiale** operator.

PARTS AVAILABILITY

Gulfstream was tops in the parts availability category, and it showed in the comments. Even operators of older aircraft were generally satisfied. Parts availability, said Marlin Priest, the director of maintenance for a **GIII** based in the Southeast, is "good, considering a 21-year-old aircraft. Some aftermarket and avionics parts are becoming difficult to locate."

The captain of a **G200** said he's pleased with the availability. "Parts availability dramatically improved after Gulfstream took over the brand."

Reed Lamb, the director of maintenance for the Semitoole Flight Department, which operates a **Commander 690C** from Montana, said, "We have had good success finding parts."

Some Hawker Beechcraft operators felt the company's Rapid system is improving parts availability. "Rapid is now close to full parts support. Improves each year," said a **Hawker 800** operator.

"Hawker Beechcraft bends over backwards to get the part out," said Per Landeck, chief pilot for Yates Petroleum of Artesia, N.M., a **Premier** operator.

Another **Premier** operator related a different experience. "Generally when we call for a major part, the answer is usually, 'The part is not in stock and we are not sure when we can get it,'" he said.

A **King Air 200** operator from the Southeast said he's also experienced a long wait for some parts. "[The availability] is fair for most parts, but if you want it this week, you must 'AOG' the part by

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calling. Web-based ordering may give you a lead time that isn't copacetic."

One **Agusta** operator said, "Major parts are typically available, but it's the small stuff that will get you. For example, our A109E Power's fuel panel has three small indicators that are illuminated during night flying. When these indicator bulbs fail, you can see the indicator display in light but not in the dark. Well, Agusta has no parts or procedures available to replace the bulbs. They are soldered onto the p/c boards inside the panel. Nor can they be repaired by Agusta itself here in the U.S. You have to buy an exchange panel from them for about \$10,000 to get your light bulbs fixed."

BBJ operators gave Boeing high praise for parts availability. Said one, "They have a good supply of parts, and if they do not have it in stock they will go out and find a vendor that does."

The operator of a **Challenger 300** summed up most of the comments about Bombardier parts availability, describing it as "inconsistent. Most high-fail items are available but some are difficult to get—tires, for example. There's only one supplier and most of the production is going to the OEM."

A **Challenger 601-3A** operator agrees. "Terrible. We go to the open market most of the time as Bombardier never seems to have high-failure components in stock or readily available," he said.

But others said the situation is improving. Tom Robinson, a lead technician for Midwest Aviation's **Learjet 45**, said, "For the most part it is good, a definite improvement from last year."

Ronald Earl, a technician on Citi-group's White Plains, N.Y.-based **Global Express**, said, "Bombardier has recently made a significant investment in its

spares inventory and warehousing facilities. As a customer we have been reaping the benefits for the last several months."

Many operators had good things to say about Cessna's parts department. John Hopper, chief pilot for Chemitura, a company based in Connecticut that operates a **Citation XLS**, said "They get the stuff to us when we need it."

A **Citation X** operator said, "Hardware, O rings and light bulbs, no problem. They are starting to keep bigger items in stock at the service center level. Unless I need it right away, parts are here next day."

But others said they experienced problems. An **Excel** operator said, "Some parts are difficult to get. We were AOG for four days because there were no fuel control units available. Biggest irritation is receiving parts that bench test OK, but when putting them in the aircraft, they fail for the exact same reason they were returned to the manufacturer."

The operator of a **Citation 525** experienced issues this year. "Most parts have not been a big problem, but we had several issues this year that were very trying. Cessna did step up to the task, but getting there was difficult and expensive."

Falcon operators have had their share of parts problems as well. The mechanic of a **Falcon 50EX** said, "We need to use a third-party supplier for parts because Falcon Jet does not have what we need."

But Jorge Lara, the operations director for a Miami-based company flying a **Falcon 50**, said Dassault has had "excellent improvements" in parts service.

Spence Lane, a **Socata** operator and president of U.S. Financial Services based near Daytona Beach, Fla., said the "U.S.-located parts stock is small, but AOG procurement is rapid from abroad."



Socata TBM 700

COST OF PARTS

Not surprisingly, the cost of parts was a concern of almost every operator. While there was the occasional positive comment, by and large the sentiment was that manufacturers' parts are overpriced. Boeing won the category by a wide margin again this year. One **BBJ** operator said, "Compared with other corporate aircraft [manufacturers], their pricing is very reasonable." Others said the price for BBJ parts was "good," a rare verdict in this category.

Rotorcraft operators had problems with the cost of parts as well. One **Bell** operator said he was "disappointed in last year's price increase. Although the overall increase didn't seem horrible, the [price of] parts we use increased significantly."

Many Challenger operators voiced criticism of Bombardier's parts prices. A **Challenger 300** operator deemed them to be "outrageous compared to competition! They have not made an attempt to control costs. Normally are not broken down into sub-categories, [thereby forcing] you [to] buy next higher assembly."

A **Challenger 601** operator from Texas said, "Bombardier is higher than everyone else on parts prices, until they are called to task about individual parts. Then they usually will bring their pricing down to be competitive."

The lead technician on a **Learjet 45** based in Portland, Ore., had similar feelings. He said, "Bombardier marks up vendor parts considerably, and it has proprietary agreements with some vendors that do not allow operators to buy directly. If you can get the vendor part directly you can save 25 to 30 percent."



Cessna CitationJet

Many Bombardier operators said they are opting to join the Smart Parts program to control costs. Said Erik Roodman, a captain on a **Challenger 601** operated by Air Orange in Simi Valley, Calif., "Anything that goes on an aircraft is expensive. Thank God for Smart Parts."

A **Citation XLS** pilot said, "Are you kidding? Everything is overinflated." Ed Dusang, chief pilot for a company in the Southeast that operates a **Citation II**, said the cost of parts is "too high for the quality of workmanship."

But some said they were satisfied with the price of parts. One **Citation II** operator said the costs are "fair" while another said they are "reasonable."

Many Falcon operators commented on Dassault's efforts to reduce the price of certain parts. Matthew Mitchell, a quality control inspector for a company flying a **Falcon 2000**, said, "They have

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Camera Winners

As in past years, **AIN** offered readers a modest incentive to complete the survey. This year the prize was a Canon PowerShot SD1000 digital camera with 7.1 megapixels and 3x optical zoom. Three winners were chosen at random from the 1,437 people who successfully completed the survey and submitted the results to Forecast International. The winners are: Frank Stubbs, a

maintenance technician for 24th Century Jets in Lunenburg, Mass.; Cindy Potash, chief pilot for Rafael Vinoly Architects based in Pelham, N.Y.; and Ronald Pilz, director of the Air Transportation Department at Auburn University in Auburn, Ala.



Frank Stubbs



Cindy Potash



Ronald Pilz



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made strides to lower costs and improve warranty times. There is also parts availability through outside vendors."

Reed Lamb, director of maintenance for the Semitool Flight Department, which operates a **Falcon 50**, said, "I have to say Dassault has been doing a great job of bringing prices down on many items and, coupled with the two-year warranty, this really gives more value."

Not all Falcon operators were happy with the price of parts. One **Falcon 50** operator simply said, "Probably the worst part of owning a Falcon."

Gulfstream was rated fifth in the category for the cost of parts, a verdict that showed in the comments. "How do you spell 'rip-off'?" asked a **G200** operator.

Peter Vedel, the captain of a **GV** for NT Air, said, "This is always a sore subject. Prices seem to be following the demand. The more you need the part, the higher the price."

Some said there has been hope lately as prices start to decline. Sherman Collins, the director of maintenance for Radical Ventures, a **G550** operator from Texas, said, "They have become a lot better and more competitive over the past couple of years, but still have some areas to improve."

Doug Downer, chief pilot for a company in the Midwest operating a **Hawker 700A**, said, "I've been in the business for 32 years. Hawker parts prices are outrageous. \$8,000 for a nav light lens is just one example."

One **King Air B200** operator said, "Some parts are out of line with reality. I have called customer service two times this year and had parts costs reduced because of price review."

Terry Herron, the director of maintenance for a company in the Southwest operating a **Hawker 800**, said Hawker Beechcraft's Support Plus+ program is a "great program and [I] would highly recommend it."

Socata's parts pricing had the distinction of earning the lowest score of any category in the entire survey, including rotorcraft, a fact many operators attributed to the weak dollar. One operator said the cost of parts was "generally high, in some cases obscenely so, perhaps due to having to do everything in France."

AOG RESPONSE

Gulfstream is, as one operator said, "the gold standard" in this category. One **G200** operator said, "The use of the G100 to support the fleet has kept us from losing more than one charter. At

one point they launched the G100 from DAL to SFO to deliver a nav light."

But even Gulfstream wasn't immune to comments about bad experiences. Paul Staib, chief pilot for **GIII** operator Montana-Abbey, said, "For one hydraulic hose, Gulfstream required one week for an AOG order."

Though Embraer scored relatively well for AOG response, the comments were mostly negative. One **Legacy 600** operator said there's "sometimes a two-day wait for tech reps to respond." Another predicted the situation will improve. "Current AOG response is based out of Brazil but is transitioning to the U.S. This will be a huge improvement," he said.

One **Socata** operator said, "They will work with you as much as possible when you are dealing with five time zones, different holidays and different work standards."



A **Hawker 800** operator from the Midwest said Hawker Beechcraft's AOG response was "not good. People in parts don't seem to care that an aircraft is AOG or what that means."

"Not good because of parts availability after hours," said a **King Air 300** operator from the West Coast.

Proving that a manufacturer sometimes offers a varying degree of service for different types of aircraft, Per Landeck, chief pilot for Yates Petroleum in Artesia, N.M., said the OEM's service on his company's **King Air 350** was "an area well covered by Hawker Beech. Large improvements have occurred in the last three years." But for his company's **Premier**, Landeck referred to his comments about parts availability, implying that service has been less than stellar.

Responses for Bombardier were all over the scale. A **Learjet 55** operator in the Midwest said, "The Bombardier AOG response team has been a definite benefit for locating parts and getting the

aircraft back on line."

A **Challenger 300** operator said, "We had a part that couldn't be shipped air freight and they drove it down to Dallas from Chicago overnight."

"Bombardier's response to AOG is almost always, 'We have no parts; it's your problem,'" according to Ron Freswick, flight department manager for a company operating a **Global Express**.

However, others spoke of the company's improvement with AOG response time. "The AOG response time today is 1,000 percent better than just a few months ago," said Mark Thomas, director of maintenance for a company that operates a **Challenger 300**.

Most operators praised Cessna for its AOG service. "Cessna is great. Every time I have ordered parts AOG I have received them the same day and not been gouged on shipping," said one chief pilot of a **Citation II**.

"Cessna hops to it and helps you out when you're AOG," said Richard Wenzel, the pilot of a **Citation XLS** for Progress Energy in Raleigh, N.C.

One **Citation 525** operator said, "Most of the time it was quite good, but sometimes we had to work our way up the food chain to find someone who could and did make things happen in a timely manner."

Dave Dolack, maintenance manager for Executive Jet Management based in New Jersey, said Dassault takes care of his company's **Falcon 50**. "When purchasing parts directly from Dassault, I found that 90 some-odd percent of the time the part I need is in stock. When it isn't in the Teterboro parts facility, Dassault does a great job for me when it's AOG," he said.

A **Falcon 2000EX EASy** operator in California said he has also received good AOG service from Dassault. "They have provided charter for the trips we have missed, and the tech support has been nothing short of phenomenal," he said.

A maintenance technician on a **Falcon 2000** based in the Southeast doesn't think Dassault has done such a good job. "AOG and Dassault just don't go together," he said.

Chief pilot Arthur Hill of Sanofi Aventis Pharmaceutical said the manufacturer's response time on his **Sikor-**

sky helicopter's main transmission was "three weeks, even with the item on the service contract."

One **Eurocopter** operator said of that company's AOG response, "Not up to par or standards. How could they [respond satisfactorily to] AOG when parts are hard to procure?"

WARRANTY FULFILLMENT

Hawker Beechcraft had a strong second-place finish in this category, and many operators cited what they said was great support in this category. The pilot of a **Hawker 850XP** from the Midwest said, "Three small warranty claims on the 2006 Hawker 850XP—one with Raytheon and two with the new Hawker Beechcraft. Parts shipped and repairs done. Paperwork is easy."

"Good," said Jay Jacobs, chief pilot for a company that operates a **Beechjet 400** from the Southeast. "I'm even surprised at some of the things Raytheon has covered on a 20-year-old airframe."

King Air operators were also generally happy with Hawker Beechcraft's warranty service. The chief pilot of a **King Air C90B** said, "Our relationship with Raytheon [now Hawker Beechcraft] on the warranty issues has been completely [satisfactory]." But Mark Hargis, director of operations for the Paramount Citrus Association, said of the service to his company's **King Air C90GT**, "You have to make them live up to their end of the deal, and the art of replacing brand-new failed parts with 10-year-old repaired parts is just wrong."

Boeing Business Jet operators commented positively on warranty fulfillment, even though the OEM came in fourth for this category. Said one flight engineer, "They stand behind their warranty 100 percent and will extend warranty for items they know have a design or reliability issue."

Gulfstream owners and operators were almost universal in their praise of the company's warranty support. The company finished first in the category, and though there was the occasional "average" or "must always be wary of Gulfstream warranty" comment, most agreed with the sentiments of Jim Bynum, the director of aviation for Gaylord Entertainment in Nashville, Tenn. "Excellent," he said. Bynum oversees the operation of a **G150**.

The director of maintenance for a company that operates a **G550** from California said, "With two years of completion warranty and five years of production warranty, Gulfstream stands behind its product very well."

At the opposite end of the scale was **Pilatus**, which was second-to-last, ahead of only Learjet for all fixed-wing manufacturers of newer aircraft in this category. Operators reported numerous problems, including one in the Midwest. "We are experiencing a horrible time getting Pilatus to fulfill a warranty claim

that was within weeks before our warranty period expired," he said.

Stephen Krum, pilot and CEO for SPK Enterprises in Birmingham, Ala., didn't have much luck with his **Commander 690B**, either, although the problem lies with Honeywell's engines. With the Garrett TPE331 it was "like pulling teeth," he said, to get Honeywell to "take responsibility for a manufacturing defect problem."

Bombardier operators spoke of a mixed experience for the most part. David Contreras, chief pilot for a company in southwest Florida operating a **Challenger 604**, said, "[They] drag their feet and offer many excuses why they cannot accommodate. However, after some brow beating they do fulfill the warranty items."

"The Bombardier warranty is the best I have ever experienced," said Guy Smith, captain of a **Global Express** for Citigroup Corporate Aviation based on the West Coast. "If there is an issue that is questionable I always get prompt resolution by contacting my customer service account manager."

Citation operators reported a number of problems with Cessna's warranty, even though the company scored third place in the category. The chief pilot on an **Excel** from Texas said, "Took one-and-a-half months to get sun visors that were covered under warranty, and some question as to whether interior or airframe."

Alexander Salons, a consultant and pilot for Mericos Aviation of southern California, said Cessna's support on his company's **Excel** was "poor. They will get out of any warranty claim they can."

Another **Excel** operator, this one from the Southeast, said, "They have always covered what we agreed to in the beginning and then some."

Falcon operators were generally happy with the warranty support. Said one director of maintenance for a **2000EX EASy** based in California, "Very good. Dassault Falcon has come through multiple times on issues we have had to deal with."

Terry Illyes, a maintenance manager on a **Falcon 2000** based in North Carolina, said, "Dassault covers well, but if you fall out of warranty by one day, sorry."

Brian Purvis, director of maintenance for a company operating a **Legacy 600**, said, "So far so good, although if you are not under the Embraer Executive Care program (cost-per-hour warranty) you do not have access to parts that are kept in a pool for just those clients."

TECHNICAL MANUALS

Although the scores for the technical manual category were comparable to the other eight categories, the comments reflected frustration with the manufacturers on this subject. The exception

was **BBJ** operators, who rated the OEM highest in the category and provided comments such as "excellent" and "good."

Gulfstream was the only other OEM with a score higher than eight in the category. Sherman Collins, director of maintenance

for Radical Ventures, which operates a **G550** from Texas, called the OEM's manuals "awesome. Love the CD-ROM library, and the print on demand from the Web-based maintenance program makes it even easier!"

GII captain James Bartlett

said, "Gulfstream wants a fortune to provide a set of manuals for this aircraft."

A few **Legacy 600** operators called Embraer's manuals "simple and clear" and "very detailed." But Frank Bauer, a

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maintenance manager based in Switzerland, said, "At least every second week a new revision is published."

An **Agusta** operator said, "You need a good imagination to interpret the Agusta manuals sometimes."

"Standardize the way torque values are presented," said one **Bell** director of maintenance based in the Southeast.

Many **Falcon** operators commented on problems with errors in both technical and grammatical aspects. Andy Lindborg, director of maintenance for CSIM Air in Aurora, Ore., said, "I have sent document discrepancies to Dassault via their Web site twice and still have gotten no response. They need to review customer input better so that discrepancies can get fixed." The company operates a **Falcon 900B**.

When the manual is accurate, many operators were pleased. "I like the field manual very much. I am used to it though, so I guess familiarity with it [helps]. Dassault Falcon uses only one CD for the airframe manual, which makes it easier to find things. The engine manual is easy to use as well," said the operator of a **2000EX EASy**.

The **Challenger** line scored poorly in the category and operators let us know why in their comments. The manuals "lack many of the basic procedures to remove and replace high-failure items," said **Challenger 300** operator Matthew Mitchell. "Most factory FTPs have not been incorporated into the manuals, which as time goes along we run into

more and more when a functional check does not jive with manuals text."

Regarding the engines, a **Global Express** operator said, "The Rolls-Royce manuals are not very user-friendly and they require the CD-ROM to be in the computer to use; the manuals cannot be loaded onto the hard drive. This is a problem when more than one tech needs to use them."

But C. Fortmann, director of aviation operations for a company operating a **Challenger 604** from Texas, said, "Bombardier manuals on CD-ROM are great. The Web site is a valuable tool."

Commenters were surprisingly hard on Cessna, considering its fifth-place finish in the category. The director of maintenance for a company operating a **Citation Bravo** from Florida said, "They were fair in years past but have gotten horrible in the past year."

David Lyall, an **Encore** operator who served as director of aviation for a company in Tennessee, said, "The current electronic technical manuals are unusable."

Wysky Investments chief pilot Leslie Briggs said that the manuals are difficult to use on his company's **CJ2**. "The Internet interface of the Cessna manual is cumbersome and tedious."

However, the operator of an **Excel** said he thinks they are the "best in the industry, with only occasional problems that crop up from time to time."

Don Forman, chief of maintenance for a Midwest company operating a **Hawker 800**, said of Hawker Beechcraft's manu-



Hawker Beechcraft King Air B200

als, "REPS CD works well. Revisions are as easy as changing CD. Maintenance manuals and IPCs have some error in content—particularly when a system has evolved from one model to another. Finding a part number for a simple item, like a bulb for a nav light, can be difficult."

Another **Hawker 800** operator said of the manuals, "Hawker needs to start from scratch and create new ones that are logical. There is a lot of information if one can find it; however, finding it is the problem."

Greg Mears of Premier Air Center in Texas said of the **Hawker 800A**, "It seems that Raytheon or whoever owns the aircraft does not keep up its parts manuals. If you need a part that Raytheon parts does not recognize, then here we go to tech services to identify the part for you. What a waste of time."

King Air E90 pilot Edward Pekowski for the Chaparral company based in Texas finds that "Beechcraft manuals are very well written."

Pilatus owners said they weren't happy with their aircraft's manuals.

TECHNICAL REPS

Although Gulfstream won the technical rep category in impressive fashion, Bombardier also drew positive comments. "Stellar. One of the highlights," said one **Challenger 300** operator.

Leo Burghoffer, captain on a **Global Express** for New Jersey-based Jet Aviation, said, "Every one of these that I have met from Bombardier has been enthusiastic and more than willing to put out a lot of effort to get an answer to problems."

"This is one area where BBAS really shines. The quality of its field service reps is excellent," said Four S chief pilot Bruce Stanfield of Greenville, N.C. Stanfield's company operates a **Learjet 45**.

Cessna operators weren't as confident in the company's reps. The company came in seventh in this category and the comments bore that out. Said **CJ1** chief pilot Joe Mavencamp, "We are finding a lack of knowledge of aircraft issues."

An **Encore** operator said, "Citation tech reps are usually very helpful, but



they can be hindered by unavailable data for aircraft.”

Encore chief pilot Robert Whittenburg said, “My tech reps are and have been excellent.” But the president of a company flying an **Ultra** said that Cessna reps “diagnosed the problem incorrectly and did not stand behind the diagnosis.”

Most of the responses for **Bell** said the reps were “responsive, helpful and enthusiastic.”

A **Falcon 2000** operator said Dassault Falcon’s technical reps have been “very knowledgeable and cooperative. They are there when you need them and stay as long as necessary to ensure problems are resolved.”

Captain Richard Quandt, who is based in the Midwest and flies a **Falcon 900EX EASy**, said, “Our rep is excellent. You can call him day or night. He will have the information you need as quickly as possible.”

“If left to their own devices, these guys would be the best in the industry,” said the director of maintenance for a com-

pany that operates a **Falcon 20-5**. “The ‘back office’ approach drives issues that should require problem resolution within hours to months.”

One **Falcon 900C** operator said, “They don’t answer their phone. They don’t call back after you leave a voice mail.”

Embraer came in second in this category, and one **Legacy 600** operator said his rep is “very good. [He] gets to the bottom of an issue and stays in close contact with Embraer engineers to track and prevent recurring problems with other Legacys.”

Gulfstream was the clear category winner and there were virtually no negative comments. Said one **G200** operator, “Like the AOG, it does not get any better than Gulfstream. Their FSR comes and visits at least once a month just to see what’s happening and how we are doing.”

Edward Drew, a Georgia-based v-p of the Personal Flight Group, said Gulfstream takes good care of the company’s **G550**. “The finest field-service reps in the business and the technical operations sup-

port staff in Savannah is very responsive and helpful 24/7,” he said.

Hawker Beechcraft didn’t score particularly well in the category. In the case of the Hawker line, it was second-to-last. Said one **Hawker 800** operator, “Our rep has visited one time in the past year.”

But another **Hawker 800** operator said the reps are “generally knowledgeable. Avionics questions are the most difficult to get answers for. Interface questions, that is, XM weather and Collins Pro Line as an example, is the area where some problems arise. But they are always resolved.”

A **Beech Premier** operator said, “They talk about visiting and so on, but we have never received a call or visit.”

A **King Air B200** operator thinks the reps are too “lawyer conscious to tell you how they actually do it in the service centers.”

Sabreliner operators thought their reps were “very responsive and knowledgeable” and “good.”

A **Socata** operator said the reps are “highly knowledgeable and well coordinated with the latest factory service inputs.”

OVERALL AIRCRAFT RELIABILITY

The **BBJ** took the top spot in this category, with operators categorizing the aircraft as “very reliable” and “one of the most outstanding I have ever been associated with.” Another said they had a 99-percent dispatch rate. “We just service the engine oil, dump the lav and service it with fuel,” one operator said.

Cessna and Gulfstream tied for the second-place spot among newer business jets, and customers of both manufacturers had great things to say about their aircraft. Gulfstream also took the top spot among older business jets.

The assistant flight department manager of a company from the Midwest operating **Citation Bravos** said, “We use

our aircraft like regional commuter aircraft, short hops and high cycle times almost seven days a week. It is very rare that we can’t dispatch any of our Bravos.”

G500 pilot E. Gutierrez said he thinks “Gulfstreams have enough redundancy to enable them to operate worldwide with minimal support.”

Operators of older, GDAS-supported aircraft were generally happy as well. “The **Westwind** has been one of the most reliable aircraft on the market for years, but in some cases [such as] electrical problems, old age can be a factor,” said California-based captain James Doyle.

A **Conquest** operator said, “If maintenance is completed by a good service center, you can maintain an excellent dispatch rate.”

Although there were few negative comments about either manufacturer, operators of both newer Gulfstreams and Citations reported squawks that occurred early on with their aircraft. “After many teething pains with the aircraft, mostly involving the pressurization system (seven loss-of-pressure events) the aircraft has been flawless. We have not lost a charter in the past two years due to aircraft maintenance issues,” said one G200 captain.

The president of a company flying a **Citation X** said the aircraft “gets better with time. It took 18 months to achieve acceptable reliability.”

Robert Whittenburg, chief pilot of a company flying an **Encore**, said, “After nearly two-and-a-half years and 720 hours, this aircraft is finally becoming very reliable.”

In Cessna’s case, the manufacturer might have taken the top spot were it not for **Sovereign** owners. Only a third of the comments were positive, and many of the remaining comments stemmed from frustrations with the avionics. David Pratt, chief pilot for South Africa-based Jair,

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said, "Airframe and engines are very reliable, but vendor items are less so."

Falcon operators, especially those operating the EASy system, also commented on issues with avionics. The captain of a **900EX EASy** said, "For a new aircraft and new systems it is reliable. Most problems are with

avionics and they have a number of people that can help with all the problems."

David Newell, director of aviation and travel for VF, which operates a **Falcon 900B** out of North Carolina, said, "Honeywell has not given the avionics support we would like to see."

The captain of a company operating a **900B** and a **900EX** said,

"We maintain a dispatch reliability in the very high 90s," despite a combined 2,100 annual hours on the aircraft.

An **Agusta** operator said, "Despite the service, factory and technical support being at the absolute bottom of the bucket, the helicopter is a great design other than crack manifestations and crazy moisture with avionics problems."

MDHI scored a close second behind Bell in the category and Russ Reilly, a base manager, said, "We operate our helicopter in satellite bases away (six hours' flying time) from all our engineers, and for the last six-and-a-half years it has been very reliable between 100-hour servicings."

"You need a maintenance person who knows the aircraft well,"

said one **Sikorsky** operator. "Troubleshooting can be tedious. Good aircraft well designed. Maintenance keeps on top of it and it's a very reliable ship."

Bell came out looking the best supporter of rotorcraft in the comments. The brand's reliability is "excellent" said one pilot.

Bombardier operators had a mixed bag when it came to reliability. Although newer Challengers scored more than a point higher than newer Globals, most of the comments about the **Global** were positive. "In the first four months of operation we've had 100-percent dispatch availability," said Jet Aviation Business Jets maintenance manager Robert Kleinschmidt.

As an example of the conflicting viewpoints of Challenger operators, flight operations manager Ladd Caine of Florida's Sierra Star Leasing said his company's **Challenger 300** is a maintenance queen. "Since we took delivery [in December 2005] S/N 20050 has been out of service for 274 days."

On the opposite end, director of maintenance Mark Thomas said, "The **Challenger 300** has exceeded expectations for this flight department—in all aspects of maintainability and reliability."

Operators of older Learjets rated the aircraft a surprising full point higher than those of newer Learjets, something the comments reflect. "The **Learjet 25** will fly till the FAA kills it," said one operator.

Conversely, a **Learjet 40** operator said, "Few flights have gone by without an issue of some sort and a lot of our flights have become flights to service centers."

The maintenance technician of a **Learjet 45** agreed, saying he felt the aircraft reliability was "poor. The worst I have seen in my 30 years of maintaining corporate aircraft."

Beech **Premier** operators said they were also unhappy with their aircraft's reliability. "This aircraft has been a borderline lemon," said one operator.

King Air operators reported positive reliability. The director of maintenance on a 300 said, "Reliability is the motif of the King Air line."

Capt. H. Jankovich said of his company's airplane, "The **PC-12** is a quality aircraft. Our Pilatus has been near faultless in three years, both aircraft and accessories."

"Although this aircraft has the normal new squawks, the manufacturer has addressed them right away and has a great dispatch record. This is a fine aircraft," said one **Socata** operator. □